



	9. Twiner and Simister (ed.), Project Management, Infinity Books, New Delhi.
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### Ph.D. (Fisheries Economics) Course Structure and Credit Distribution

<b>A</b>	<b>Major Courses</b>			<b>12 Credits</b>
1	FEC 601	Fisheries Production and Sustainability	1+1	
2	FEC 602	Applied Econometrics	2+1	
3	FEC 604	Fishery Resource Evaluation and Governance	1+1	
4	FEC 605	Institutional and Legal Environment for Fish Business	2+0	
5	FST 601	Advanced Statistical Methods	2+1	
<b>B</b>	<b>Minor Courses</b> (From the subjects closely related to a student's major subject)			<b>6 Credits</b>
1	FEC 603	Economics of Development and Planning	2+0	
2	FEC 606	Indian Fisheries Trade and International Scenario	1+1	
3	FST 602	Software for Fisheries Data Analysis and Management	0+2	
<b>C</b>	<b>Supporting courses</b> (The subject not related to the major subject. It could be any subject considered relevant for students research work (such as Statistical Methods, Design of Experiments etc.) or necessary for building his/her overall competence).			<b>5 Credits</b>
	<b>Total Course Work Credits</b>			<b>23 Credits</b>
<b>C</b>	<b>SEMINAR</b>			<b>2 Credits</b>
1	FEC 691	Seminar-I	0+1	
2	FEC 692	Seminar-II	0+1	
<b>D</b>	<b>Ph.D. RESEARCH</b>			<b>75 Credits</b>
1	FEC 699	Doctoral Research (Semester II)	0+15	
2	FEC 699	Doctoral Research (Semester III)	0+15	
3	FEC 699	Doctoral Research (Semester IV)	0+15	
4	FEC 699	Doctoral Research (Semester V)	0+15	
5	FEC 699	Doctoral Research (Semester VI)	0+15	
	<b>Total Ph.D. Program Credit Hours</b>			<b>100 Credits</b>

### Ph.D. (Fisheries Economics) Course Contents

<b>FEC 601</b>	<b>FISHERIES PRODUCTION AND SUSTAINABILITY</b>	<b>1+1</b>
<b>Objective</b>	To impart skill of fish production and sustainability in the different culture systems	
<b>Theory</b>		
<b>UNIT I</b>	<b>Introduction:</b> Fishery resources of India- Capture and culture fisheries- Status and prospects - Production function in culture and capture fisheries of India- Inland fisheries in India- Marine fisheries in India- Mariculture – Present status and future potential.	
<b>UNIT II</b>	<b>Production economics:</b> Fish catch and fishing effort- Catch per unit effort- Fishing costs and returns- Estimation of economics of fisheries- Dynamic economic models of fishing- Sustainable yield- sustainable yield curves- Open access equilibrium- Maximum economic yield- Maximum sustainable yield- Change in open access equilibrium yield- Free and open access equilibrium- Total revenue, costs and sustainable yield with respect to effort.	
<b>UNIT III</b>	<b>Fisheries management:</b> Fisheries Management Theories- Objectives and techniques of fisheries management -Criteria for fisheries management- Need for management- Implementation of management Measures-	
<b>UNIT IV</b>	<b>Fisheries regulations:</b> Objectives of fisheries regulation- Need and types of regulation in Indian Fisheries- Overfishing- Problems of overfishing- Reasons for overfishing-Measures adopted to minimize overfishing.	
<b>Practical</b>	Production status of fishery resources in India; Analysis in the production of marine fisheries in India; Analysis in the production of maritime states in east coast of India; Analysis in the production of maritime states in west coast of India; Analysis in the production of inland fisheries in India; Analysis in the production of inland states in India; Catch and effort surveys; Estimation of cost and returns of different capture fisheries methods; Estimation of cost and returns of different culture fisheries methods; Case studies on various sectors of fisheries.	
<b>Suggested Readings</b>	<ol style="list-style-type: none"> <li>1. Charles, A.T., 2008. Sustainable fishery systems. John Wiley &amp; Sons.</li> <li>2. CMFRI- Central Marine Fisheries Research Institute – <a href="http://www.cmfri.org.in">www.cmfri.org.in</a></li> <li>3. Evenson, R. E. and Pingali, P. 2010. Handbook of agricultural economics, vol. 4. Amsterdam, London : Elsevier</li> <li>4. FAO – Food and Agriculture Organization – <a href="http://www.fao.org">www.fao.org</a></li> <li>5. Johl, S. S. 2007. Fundamentals of farm business management. New Delhi: Kalyani Publishers</li> <li>6. Munro, G.R. and Scott, A.D., 1985. The economics of fisheries management. In Handbook of natural resource and energy economics (Vol. 2, pp. 623-676). Elsevier.</li> </ol>	



	<p>7. Pearce, D., Barbier, E. and Markandya, A., 2013. Sustainable development: economics and environment in the Third World. Routledge.</p> <p>8. Schaefer, M.B., 1957. Some considerations of population dynamics and economics in relation to the management of the commercial marine fisheries. Journal of the Fisheries Board of Canada, 14(5), pp.669-681.</p> <p>9. Sutinen, J.G. and Andersen, P., 1985. The economics of fisheries law enforcement. Land economics, 61(4), pp.387-397.</p> <p>10. WWF- World Wide Fund for nature - <a href="https://www.worldwildlife.org">https://www.worldwildlife.org</a></p>
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<b>FEC 602</b>	<b>APPLIED ECONOMETRICS</b>	<b>2+1</b>
<b>Objective</b>	To provide comprehensive knowledge of advanced econometric tools for better understanding of economic problems.	
<b>Theory</b>		
<b>UNIT I</b>	<b>Model specifications:</b> Econometric model specification criteria, specification errors, measurement errors of dependent and explanatory variables, Different model specification criteria	
<b>UNIT II</b>	<b>Instrumental variables:</b> Review of classical regression model, hypothesis testing, estimation subject to linear restriction, Mixed estimation - use of instrumental variables in regression analysis,	
<b>UNIT III</b>	<b>Qualitative regression tools:</b> Use of Dummy variables, Models for qualitative dependent variable-LPM, multinomial logit models.	
<b>UNIT IV</b>	<b>Simultaneous equations:</b> Simultaneous equation systems: Basic rationale, identification problems, Single equation methods of estimation-indirect least squares, two stage least squares and K-class estimators, limited information maximum likelihood, three-stage least squares, and full information maximum likelihood; Relative merits of these methods and their small and large sample properties. SURE estimates.	
<b>UNIT V</b>	<b>Time series analysis:</b> Introduction to time series analysis – trend, cycle and seasonality, time series models, Basic ideas in fitting non-linear regression models	
<b>UNIT VI</b>	<b>Time series modelling:</b> Distributed lag models, Analysis of economic time series – Stationarity and unit root test, ARIMA, ARCH group of models and co-integration. Neural Network Models, Pooling of cross-section and time series data.	
<b>Practical</b>	Estimation of multiple regression model; Estimation of LPM; Logit and Probit models – comparing two regressions; Chow test - Indirect least squares 2SLS, SURE, 3SLS; Estimation of simultaneous equation models; unit root tests for stationarity, fitting of ARIMA and ARCH group of models; Co integration. Model selection; Hands on using econometric packages like SPSS and SAS	



<b>Suggested Readings</b>	<ol style="list-style-type: none"> <li>1. Greene, W.H. 2002. Econometric Analysis. Pearson Edu.</li> <li>2. Gujarati, Damodar, Econometrics, McGraw Hill, latest edition</li> <li>3. <a href="http://www.oswego.edu/">http://www.oswego.edu/</a></li> <li>4. <a href="http://www.tiesindia.net/">http://www.tiesindia.net/</a></li> <li>5. <a href="https://guides.lib.monash.edu/econometrics">https://guides.lib.monash.edu/econometrics</a></li> <li>6. <a href="https://www.amstat.org/">https://www.amstat.org/</a></li> <li>7. <a href="https://www.oecd.org">https://www.oecd.org</a></li> <li>8. <a href="https://www.rss.org.uk">https://www.rss.org.uk</a></li> <li>9. Johnston, J. and Dinardo, J. 2000. Econometric Methods. McGraw-Hill.</li> <li>10. Maddala, G.S. 2002. Econometrics. McGraw Hill.</li> <li>11. Spyros Makidakis, Steven Wheelwright and Hyndman, Wiley Forecasting methods and applications,</li> </ol>
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<b>FEC 603</b>	<b>ECONOMICS OF DEVELOPMENT AND PLANNING</b>	<b>2+0</b>
<b>Objective</b>	To provide orientation to the concepts and measures of economic development and planning.	
<b>Theory</b>		
<b>UNIT I</b>	<b>Planning:</b> Planning Commission era - Organisation, role and functions -Planning in India-Objectives, Strategy, allocation, achievements and bottlenecks, Types of planning, stages in planning process, planning models. Impact of development plans, international co-operation programmes. NITIAYOG; Planning under NITIAYOG; Planning and development in China and Russia; Planning and Free Market economies	
<b>UNIT II</b>	<b>Fisheries development schemes and policies:</b> Fisheries Development and policy under the plans, Fisheries schemes; NFDB; NABARD schemes, State and center sector schemes and centrally sponsored schemes, Central Department of Fisheries; Agriculture policies, Need for a separate fishery policy. National Marine Fisheries Policy; Leasing policies for inland and brackish water bodies in different states, National Mariculture Policy; National Inland Fisheries and Aquaculture policy, Inputs Policy, Financing and Credit Policy, marketing and pricing policy, Export -Import Policy.	
<b>UNIT III</b>	<b>Importance of fisheries in rural and economic development:</b> Importance of Fisheries in rural and economic development- centre and state level policies for fisheries- Fisheries policy issues- Fisheries sector strategy- Various resource policies- Fisheries policy and Legislation- Development of Fisheries during the Five-Year Plans- Fisheries credit and marketing policies	
<b>UNIT IV</b>	<b>Planning and cooperation:</b> Fisheries planning- Economic factors influencing development and co-operation in fisheries- Fisheries management- Role of fisheries in rural development and Policy initiatives - Economic planning in fisheries- Problems of development Planning-Fishing policies and economic growth- Planning and policy analysis- Fisheries project planning	



<b>UNIT V</b>	<b>Macroeconomics Concepts:</b> dynamic macro-economic models, Inflation, Deflation and stagflation: cost push and demand-pull inflation, structural inflation, effects of inflation, Inflation unemployment tradeoffs, Phillips curve, recent developments in Inflation theory, and empirical policy aspects of inflation, productivity and inflation, supply side economics.
<b>UNIT VI</b>	<b>policies:</b> The instruments and impact of monetary and fiscal policies as an instrument of development, incidence of tax and fiscal policies, extension of Keynesian model: investment and economic growth, review of economic policies in India, case studies.



<b>Practical</b>	-
<b>Suggested Readings</b>	<ol style="list-style-type: none"> <li>1. Bailey, C. and Jentoft, S., 1990. Hard choices in fisheries development. Marine policy, 14(4), pp.333-344.</li> <li>2. Chakaravathi RM. 1986. Under Development and Choices in Agriculture. Heritage Publ., New Delhi.</li> <li>3. CMFRI- Central Marine Fisheries Research Institute – <a href="http://www.cmfri.org.in">www.cmfri.org.in</a></li> <li>4. Dewett KK. 2002. Modern Economic Theory. S. Chand &amp; Co.</li> <li>5. Diana Tussie and David Glover, 2000. The Developing countries in world trade- Policies and Bargaining Strategies, Lynne Rienner/ IDRC, Washington.</li> <li>6. Dutta and Sundaram Indian economy</li> <li>7. FAO – Food and Agriculture Organization –<a href="http://www.fao.org">www.fao.org</a></li> <li>8. Gillis, M., Perkins, D.H., Roemer, M. and Snodgrass, D.R., 1992. Economics of development (No. Ed. 3). WW Norton &amp; Company, Inc.</li> <li>9. Green D and Griffith M, 2002. Dumping on the poor: The Common Agricultural Policy, the WTO and International Development, CAFOD, London.</li> <li>10. H .L.Ahuja Indian Economy</li> <li>11. Higgins, Benjamin. Economic Development, Problems, Principles and Policies. Universal Book Stall, New Delhi.</li> <li>12. Holden, M. and Garrod, D., 1996. The Common Fisheries Policy: origin, evaluation and future (No. Ed. 2). Fishing News Books Ltd..</li> <li>13. James D. Gaisford&amp; William A. Kerr, 2001. Economic analysis for international trade negotiations, John Wiley and Sons.</li> <li>14. Kindleberger, Charles P. Economic Development. McGraw-Hill, New Delhi.</li> <li>15. M.L. Jhingan Economics of Development and Planning</li> <li>16. Meier, Gerald M. Leading Issue in Economic Development. Oxford University Press, Delhi.</li> <li>17. Michael L Weber, 2001. From Abundance to Scarcity: A History of U.S. Marine Fisheries Policy, Island Press, New York.</li> <li>18. MPEDA – Marine Products Export Development-<a href="http://www.mpeda.org.in">www.mpeda.org.in</a></li> <li>19. NFDB- National Fisheries Development Board – <a href="http://nfdb.gov.in">nfdb.gov.in</a></li> <li>20. Panayotou, T., 1982. Management concepts for small-scale fisheries: economic and social aspects (p. 53). Rome: FAO.</li> <li>21. Runge, C.F., 1986. Common property and collective action in economic development. World Development, 14(5), pp.623-635.</li> <li>22. Soley, N., 1999. Development planning: a perspective for the fisheries sector. Centre for the Economics and Management of Aquatic Resources, University of Portsmouth.</li> <li>23. SoumyenSikder, 2001. Contemporary Issues in Globalisation- an Introduction to Theory and Policy in India, OUP, New Delhi</li> <li>24. Todaro, Machael P. Economic Development in the Third World. Orient Longman, NewDelhi</li> </ol>



<b>FEC 604</b>	<b>FISHERY RESOURCE EVALUATION AND GOVERNANCE</b>	<b>1+1</b>
<b>Objective</b>	The students will be exposed to economic evaluation techniques in the realm of resource governance in fisheries.	
<b>Theory</b>		
<b>UNIT I</b>	<b>Ecosystem valuation:</b> Present status of Natural environmental ecosystems in India - Economic Tools – Markets for the Environment, Valuing the natural ecosystems in fisheries - Cost-Benefit analysis and Environmental risk. Problems in natural Fishery Resources management- misuse of natural resources, Accountability and transparency.	
<b>UNIT II</b>	<b>Environmental policies and tools:</b> A History of Environmental 'Regulation, Environment, Security, Violence: The Malthusian Legacy, Problems of "Regulating" Nature, Introduction to Policy Analysis: A policy tool approach. Property Rights and Common Property Management, Payments for environmental services.	
<b>UNIT III</b>	<b>International Environmental Agreements:</b> Evolution in Environmental Governance, Governance Strategies, Governance Tools, Analytical issues in assessing participation and devolution, Participatory approaches in natural resource management and policy.	
<b>UNIT IV</b>	<b>Environmental Impact assessment:</b> Concept and principles of EIA; methodologies for EIA in fisheries and aquaculture sector; Institutional (International/National/Stale/Local) arrangements and strategies for estimation, amelioration and compensation for impacts; Aquaculture Authority Bill and AAI. Environment related conflicts and dispute resolution; Coasian theorem and stakeholder decision making process.	
<b>Practical</b>	Environmental Policy Analysis; Developing Criteria for Evaluating Environmental Policies; Frameworks for environmental governance analysis; Common Property and Community-Based Resource Management; Case studies on environmental economics of shrimp farming (intensive/semi-intensive/extensive) and poly culture farms; Application of Extended Domestic Resource; Cost Ratio and Policy Analysis Matrix for aquaculture; Case studies on the sustainability of various capture fishery systems; Exercise on global warming and fisheries development concepts in valuing environment; Productivity change method, substitute cost method, Hedonic price method, Travel cost method, Contingent valuation methods.	



<b>Suggested Readings</b>	<ol style="list-style-type: none"> <li>1. Donald Kettl, Introduction: Environmental Governance: A Report on the Next Generation of Environmental Policy, Brookings Institute 2001.</li> <li>2. E.Ostrom.(2000).Private and Common Property Rights, <a href="http://allserv.rug.ac.be/~gdegeest/2000book.pdf">http://allserv.rug.ac.be/~gdegeest/2000book.pdf</a> (pp. 332-352)</li> <li>3. Forsyth, T (2009) Democratizing environmental expertise about forests and climate. In Kütting, G &amp;Lupshutz (eds) Environmental Governance: Power and knowledge in a local-global world. Routledge: London and NY. Pp170-185.</li> <li>4. Lemos, M.C., and A. Agrawal (2006). Environmental Governance. Annual Review of Environmental Resources, 31:297-325.</li> <li>5. Paluso, N.L (2004) Coercing Conservation. In Conka, K &amp;Dabelko, G.D. Green Planet Blues: Environmental Politics from Stockholm to Johannesburg. Westview Press. Third Edition. Pp 346-357</li> <li>6. Pretty and Ward, Social Capital and the Environment. World Development (29) 2:209-229 • Cortner, H. J. and M. A. Moote (1999) "Collaborative stewardship in action: building a civic society." The Politics of Ecosystem Management. Washington, D.C.: Island Press.</li> <li>7. Ridley, M. and B. Low (1993). "Can Selfishness Save the Environment" The Atlantic Monthly 272 (3):76-86.</li> <li>8. Scott, J.C. (1998). Nature and Space. In Scott, J.C.: Seeing like a State. New Haven, Yale University Press, pp. 11-52.</li> <li>9. Vatn, A., E. Krogh, F. Gundersen and P. Vedeld, (2002). Environmental Taxes and Politics - The Dispute over Nitrogen taxes in Agriculture. European Environment, 12:224-240.</li> <li>10.Vedung, E. (1998). Policy Instruments: Typologies and Theories. In Bemelmans-Videc, M-L., R.C. Rist and E. Vedung (eds) Carrots, Sticks and Sermons. Policy Instruments and their Evaluation. New Brunswick, Transaction Publishers, pp. 28-53.</li> </ol>
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<b>FEC 605</b>	<b>INSTITUTIONAL AND LEGAL ENVIRONMENT FOR FISH BUSINESS</b>	<b>2+0</b>
<b>Objective</b>	To provide an insight into the legal and institutional aspects that impact the efficiency and performance of fish business organizations.	
<b>Theory</b>		
<b>UNIT I</b>	<b>Legal system and business:</b> The Indian legal system an overview. The Indian Contract Act (1872): Meaning, nature, and scope; types of contracts; essentials of a valid contract, offer and acceptance, capacity to contract, free consent, performance of contract. Issues in international business transactions: International Sale of Goods, The	





	Sales Contract, Letters of Credit, Foreign Direct Investment, Protection of intellectual property, Dispute Resolution.
<b>UNIT II</b>	<b>Acts and laws:</b> Companies Act (1956): Incorporation, commencement of business, types of companies, management, winding up of companies; Negotiable Instruments Act. Factory Act, Labour laws, Industrial dispute Act.
<b>UNIT III</b>	<b>Management systems for food quality and safety:</b> Management systems for food quality and safety: Regulatory provisions and acts: Essential Commodities Act, APMC Act, Consumer Protection Act, RTI Act, MRTP Act. Regulations related to food safety, hygiene and quality: national FPO (1955)
<b>UNIT IV</b>	<b>Acts and laws for food quality and safety:</b> Food Safety and Standards Act (2006), and other Acts related to fish, fruits, meat, milk, grading and standardization (AGMARK) and international (sanitary and phyto-sanitary requirements, Codex, ISO, HACCP, Good Manufacturing Practices (GMP) and Good Agricultural Practices (GAP)) (BMPs in Aquaculture and Fisheries)
<b>UNIT V</b>	<b>Institutional environment:</b> Role of institutions in fish business: Ministry of Food Processing Industries, Ministry of Food and Consumer Affairs, Product Boards, Export Promotion Council, Food Safety and Standards Authority, India, etc. International institutions facilitating fish business. Provisions related to FDI in agriculture and food production and distribution.
<b>UNIT VI</b>	<b>Corporate social responsibility:</b> Nature and importance of ethics and moral standards; corporations and social responsibilities, scope and purpose of business ethics; Ethics in business functional areas; industrial espionage; solving ethical problems; governance mechanism.
<b>Practical</b>	-
<b>Suggested Readings</b>	<ol style="list-style-type: none"> <li>1. Bare Acts: Indian Contract Act, 1972, The sale of Goods Act 1930. Essential Commodities Act, 1955, Consumer protection Act, 1986. The companies Act, 1956.</li> <li>2. Chow, Daniel C.K. and Schoenbaum, T.J. 2005. <i>International Business Transactions: Problems, Cases and Material</i>. Aspen Publishers Gulshan, S.S. and Kapoor, G.K. 2003. <i>Business Law including Company Law</i>. 10<sup>th</sup>ed. New Age Publications.</li> <li>3. <a href="http://www.fao.org">http://www.fao.org</a></li> <li>4. <a href="https://www.fisheries.noaa.gov">https://www.fisheries.noaa.gov</a></li> <li>5. <a href="https://www.iied.org">https://www.iied.org</a></li> <li>6. <a href="https://www.wto.org">https://www.wto.org</a></li> <li>7. Kapoor, N.D. 2005. <i>Business Law</i>. S. Chand &amp; Sons. Tulsain, P.C. 2006. <i>Business Law</i>. Tata McGraw Hill.</li> <li>8. Tuteja, S.K. 2005. <i>Business Law for Managers</i>. S. Chand &amp; Sons.</li> </ol>

<b>FEC 606</b>	<b>INDIAN FISHERIES TRADE AND INTERNATIONAL SCENARIO</b>	<b>1+1</b>
<b>Objective</b>	To familiarize the student with the evolution, growth and performance of Indian fisheries trade in international context.	
<b>Theory</b>		
<b>UNIT I</b>	<b>Evolution of Indian fisheries industry:</b> Growth and evolution of Indian fisheries industry; size, organisation, structure. Export promotion measures in India-Duty draw back-Deemed exports – ASIDE-MDA-MAI-EPGC- innovations and productivity in Indian fisheries industry.	
<b>UNIT II</b>	<b>Trade theories and policies:</b> International trade; Nature of international trade - Theories of international trade - Modern theories of international trade.	
<b>UNIT III</b>	<b>Concepts of terms of trade:</b> Free trade, protection, tariffs, quantitative restrictions and other non-tariff measures-Globalisation and changing facets of global and Indian fisheries industry.	
<b>UNIT IV</b>	<b>Institutional frame work:</b> Growth of global fisheries industry- Fresh, frozen, cured, canned and other types- Fisheries industry in US, Japan, European Union, Australia, Asian and African countries - Institutional frame work in India for foreign trade- Internalization of Indian fisheries trade.	
<b>Practical</b>	Pattern and Performance of India's Seafood Exports; Export Composition and destination of Indian seafood products; Product and market diversification; Competitiveness of Indian fish and fish products; Exports of value added seafood products; Case studies on non-tariff barriers in fisheries trade; Case studies on dumping and anti-dumping measures in seafood trade; Studies on world shrimp, tuna and cephalopod industries; Analysis of International price trends and volatility; WTO and trade dispute settlement	
<b>Suggested Readings</b>	<ol style="list-style-type: none"> <li>1. FAO. Fisheries Statistics. Rome (Various years).</li> <li>2. FAO. Globefish Commodity Updates. Rome (Various years).</li> <li>3. Ministry of Agriculture. Handbook of Fisheries Statistics. New Delhi (Various years).</li> <li>4. Oscar JB. 1999. Export Competitiveness in South-East Asia: Policy Initiatives and Corporate Actions in Marine Products Industry. Wheeler Publ.</li> <li>5. Porter G. 1998. Fisheries Subsidies – Over fishing and Trade. Geneva.</li> <li>6. Appleyard DR &amp; Field A. J. 2001. International Economics. 4th Ed.</li> <li>7. McGraw Hill.Dennis A. 2001. Trade Theory and Practice. Irwin Publ.</li> <li>8. Francis C. 2008. International Economics. Tata McGraw Hill.</li> <li>9. Krugman PR &amp; Obstfeld M. 1991. International Economics: Theory and Policy. Harper Collins Publ.</li> <li>10. Mithani JP.1998. International Economics. Tata McGraw Hill.</li> <li>11. Jain Khushpat S. 2012.Export Import Procedures and Documentation. Himalaya Publishing House</li> </ol>	



	12. Henry Thompson .2010. Intrnational Economics .World Scientific Publishing Co,Pte.Ltd
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### **List of suggested Journals**

- Agricultural Economics
- Agricultural Economics Research Review
- American Journal of Agricultural Economics
- Applied Economic Perspectives and Policy (Review of Agricultural Economics)
- Aquaculture Economics and Management
- Arthshastra: Indian Journal of Economics & Research
- Asian Journal of Agricultural Extension, Economics & Sociology
- Australian Journal of Agricultural and Resource Economics
- Canadian Journal of Agricultural Economics
- Ecological Economics
- Economic Affairs
- Economic Systems
- Economic and Political Weekly
- Economics-The Open Access Open-Assessment E-Journal
- Environment and Development Economics
- European Review of Agricultural Economics
- Forest Policy and Economics
- Indian Journal of Agricultural Economics
- Indian Journal of Agricultural Marketing
- Indian Journal of Economics and Development (Indian Journal of Industrial Economics and Development)
- International Journal of Economics, Commerce and Business Management
- International Journal of Economics, Commerce and Research
- International Research Journal of Agricultural Economics and Statistics
- Journal of Agricultural Economics
- Journal of Agricultural and Food Economics
- Journal of Economics
- Journal of Economics, Management and Trade (British Journal of Economics, Management and Trade)
- Journal of Fisheries Economics and Development
- Journal of Global Economics, Management and Business Research
- Maharashtra Journal of Agricultural Economics
- Shanlax International Journal of Economics

### **List of suggested e- Resources**

- Fisheries economics and policy related publication and tools including resilience-  
[http://www.ifpri.org/publications?keyword=Fisheries+economics&ss\\_search\\_author=&sm\\_content\\_subtype\\_to\\_terms=All&sort\\_by=ds\\_year&f%5B0%5D=sm\\_research%3Anode%3A9838](http://www.ifpri.org/publications?keyword=Fisheries+economics&ss_search_author=&sm_content_subtype_to_terms=All&sort_by=ds_year&f%5B0%5D=sm_research%3Anode%3A9838)



- OECD Data for fisheries production statistics - <https://data.oecd.org/fish/fish-landings.htm>
- World bank: climate change, macroeconomics, competitiveness, trade, poverty, gender, income inequality - <https://www.worldbank.org/en/topic>
- PROFISH- marine fisheries, aquaculture and climate change <https://www.worldbank.org/en/topic/environment/brief/global-program-on-fisheries-profish>
- Fisheries economics and policy; ecosystem valuation; cost benefit analysis; and conservation of ecosystem - <https://www.youtube.com/channel/UCSUx8XzYbinaF0whJYXHU8Q>
- Fisheries statistics details state wise - <https://data.gov.in/sector/fishery>
- Fisheries Economics related publications - <http://www.seaaroundus.org/articles/>
- National agricultural marketing related schemes - <http://sfacindia.com/Nam.aspx>
- National Marketing - <https://enam.gov.in/web/>
- Entrepreneurship, Gender and Climate change - <https://www.worldfishcenter.org/publications-resources>
- Policies, Institutions, and Markets - <https://www.cgiar.org/research/program-platform/policies-institutions-and-markets/>
- Climate Change, Agriculture and Food Security - <https://www.cgiar.org/research/program-platform/climate-change-agriculture-and-food-security/>
- Fisheries Economics related Indian Publications - <http://eprints.cmfri.org.in/view/subjects/economics.html>
- Fish Marketing - <http://eprints.cmfri.org.in/view/subjects/Sub26.html>
- Theses including fisheries economics - <http://eprints.cmfri.org.in/view/subjects/theses.html>
- FAOSTAT <http://www.fao.org/faostat/en/#home>
- Indiastat <https://www.indiastat.com/>
- Marine Products Export Development Authority (MPEDA) <https://mpeda.gov.in/MPEDA/#>
- Ministry of Statistics and Programme Implementation <http://mospi.nic.in/sustainable-development-goalsdgs>
- Economic Survey 2018-19 <https://www.indiabudget.gov.in/economicsurvey/>
- ICAR-NCAP <http://www.ncap.res.in/#>

### **Suggested Broad Areas for Master's and Doctoral Research**

- Profitability and comparative performance of different aquaculture systems
- Investment pattern and capital flow in fisheries sector over the years



- Price spread/consumer surplus, and marketing efficiency of different marketing channels in fisheries marketing
- Opportunities and challenges for organised fish retail markets
- Impact of mechanization/modernization in coastal fisheries on productivity, sustainability and livelihood
- Cost benefit analysis of different aquaculture production systems
- Cost benefit analysis of advanced aquaculture production systems like RAS
- Capital formation and fisheries development in different plans
- Social and ecological impact of coastal aquaculture
- Conservation economics
- Social and ecological benefit of waste water based aquaculture systems
- Preparation of model commercial project proposals
- Economic and financial analysis of fisheries project proposals
- Export performance and potential of fish and fish products
- WTO and its implications on the fisheries trade
- Forecasting of the structure and pattern of Indian seafood trade
- Export competitiveness of Indian fish and fish products
- Status and performance of fisheries co-operatives in marine and inland fisheries sector
- Financial appraisal of the different co-operatives
- Estimation of credit requirement of Indian fishing community
- Economic evaluation of the fisheries cooperatives -case studies
- Contribution of agriculture and fisheries to Indian economy over the years
- Capital formation In Indian Agriculture and allied sectors
- Demand and supply projections for fish and fish products
- Consumer preference and market segmentation in domestic and export markets for fish products
- Policy gaps and anomalies in Indian fisheries and aquaculture
- Science and politics of monsoon ban in coastal fisheries
- Production constraints in different aquaculture production systems
- Yield gap analysis of the different aquaculture production systems
- Impact of trade and environment with respect to high value export oriented fisheries
- Analysing the MSY, MEY and SOY of the different marine resources
- Comparative advantage and competitiveness of Indian fish products in relation to major exporting countries
- Impact of anti-dumping and subsidies on Indian fish exports
- Comparative study of land leasing policies for fish/shrimp farming in different States
- Financial advantage of formation of exclusive ministry/council for fisheries